

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Score: \_\_\_\_\_

**Part 1:** Fill in the blanks in the table below. Then answer the questions that follow in the spaces provided.

### Phases of Mitosis

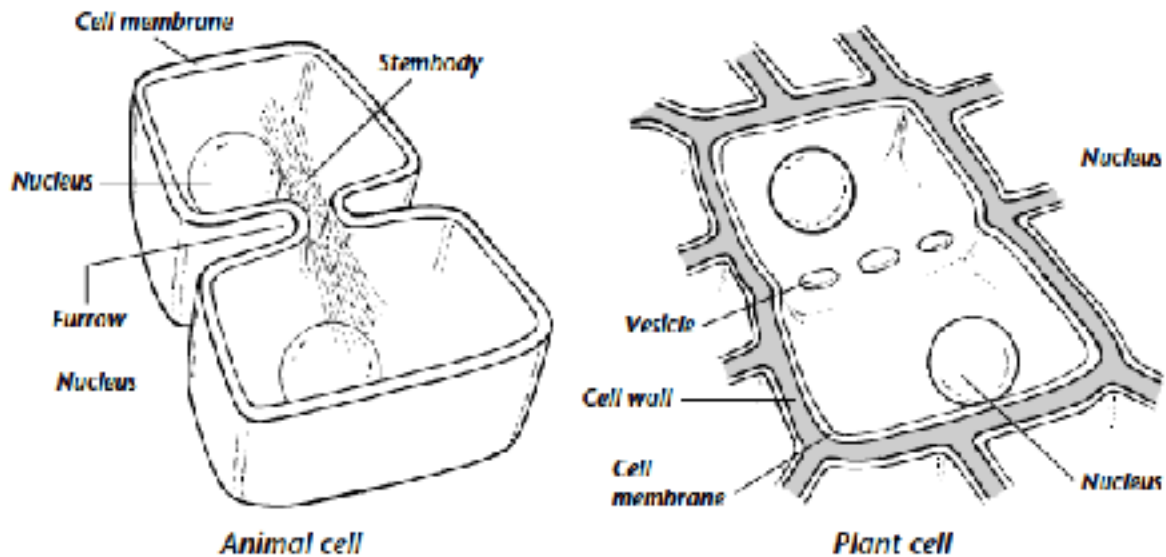
Phase	Event
Prophase	1. _____
2. _____	Chromosomes attach to spindle fibers
Anaphase	3. _____
4. _____	New nuclear envelope forms

- During which stage of the cell cycle does DNA replication occur?
- During which stage of the cell cycle does the cell membrane pinch the cell in two?
- List three things that the cell is doing during interphase.
- Identify the parts of the Chromosome:



## Part 2: Cytokinesis in Plant Cells and Animal Cells

Recall that all plant cells have a rigid cell wall. Because of this rigid cell wall, cytokinesis in plant cells is different from cytokinesis in animal cells. Study the figures below to see how cytokinesis differs in plant cells and animal cells.



In animal cells, as daughter cells pinch into two cells, there is a space between the cells called a *furrow*. As the furrow gets increasingly narrower, the spindle fibers are pressed into a tight bundle, called a *stembody*. The stembody eventually is cut in two as the new cell membranes fuse together. In plant cells, pockets of cell-wall material, called vesicles, line up across the middle of the cell. The vesicles fuse together in two sheets to form new cell walls and cell membranes between the daughter cells.

1. How does the furrow form in an animal cell? What is the furrow's role in cell division?
2. What causes the stembody to form in an animal cell? What happens to the stembody when the cell divides?
3. What are vesicles? Which parts of the plant cell do vesicles develop into?
4. If you observed a cell under a microscope during cytokinesis, how could you tell whether it was a plant cell or an animal cell?